SF 3.3
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Summary of Amended Remedial Alternative Selection at the Ponders Corner Site, Washington Final Remedial Action

INTRODUCTION

The initial Record of Decision (ROD) for the final Remedial Action at the Ponders Corner, or Lakewood site, in Pierce County, Washington, was signed by the Regional Administrator on September 30, 1985. Since then four major areas affecting the original ROD decision have changed. First, the availability of off-site disposal consistent with the Comprehensive Environmental Response, Liability and Compensation Act off-site policy has not been, and currently is not, available within Region 10 for the original proposed 900 yards of soil removal. The soils unit remedial action provided for in this amendment will now require only minimal (11 cubic yards), if any, off-site removal for disposal. This on-site treatment alternative is consistent with the Environmental Protection Agency's (EPA) off-site policy, the Superfund Amendments and Reauthorization Act (SARA), Section 121, and the Washington State Department of Ecology's (Ecology) policy to reduce, as much as possible, off-site disposal of hazardous materials. Second, the soil unit alternative of vapor well extraction was only in a developmental phase at the time the original ROD was signed. This process has subsequently been proven to be highly successful on volatile organics, as documented regionally at the pilot scale installation at the Time Oil Company site, Well 12A project. The third area relates to the comparative costs of the soil removal and soil treatment. By selecting the soils treatment option a 77% ($311,300) savings over the removal option will be realized. Fourth, the amended remedial action is a more environmentally acceptable remedy in that it provides for the permanent treatment and destruction of the contamination as opposed to disposal in a landfill, and will eliminate the uncontrolled ~~utilization~~ volatilization of contaminants that would have occurred during implementation of the excavation alternative. The vapor well extraction system will meet or exceed the level of on-site soil clean-up achieved by the soil excavation alternative selected in the September 1985 ROD. Thus, this remedy is protective of human health and the environment, is cost-effective, and utilizes the permanent solution and alternative treatment technology consistent with Section 121 of SARA.

SITE LOCATION AND DESCRIPTION

This section is unchanged.

SITE HISTORY

This section is unchanged except for the implementation of the fan speed reduction remedial action on the stripping towers (H1-H2 treatment system).

CURRENT SITE STATUS

This section is unchanged except for the ongoing monitoring of the treatment system and contaminated aquifer, and the preparation and awarding of bid packages for the remaining work on the aquifer unit.

ENFORCEMENT

This section is unchanged.

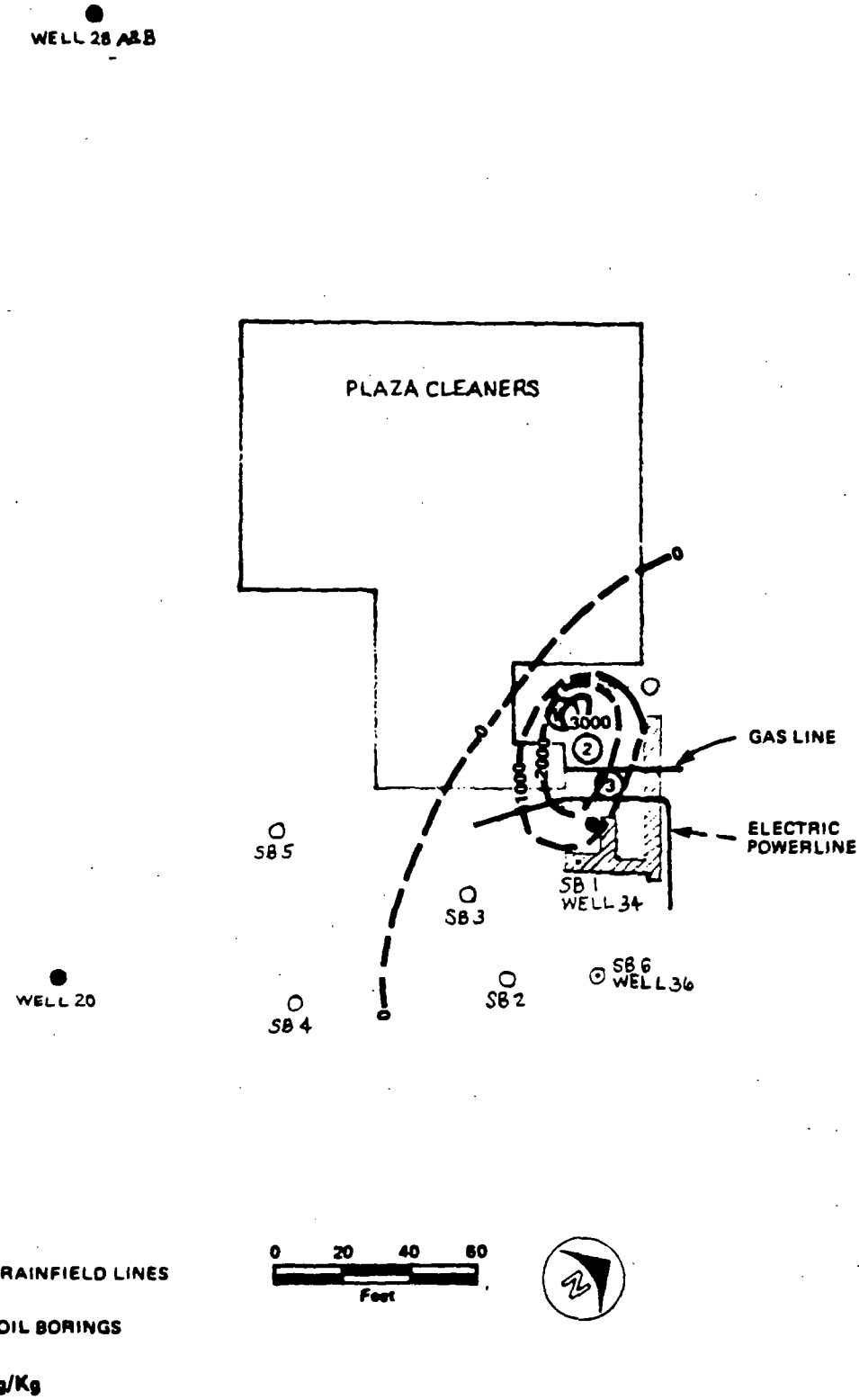
COMMUNITY RELATIONS

The public comment period on the Ponders Corner Remedial Investigation/Feasiblity Study occurred between July 10, 1985 and August 12, 1985. The Feasibility Study described the analysis of remedial action alternatives which included the vapor well extraction system. Performance, reliability, implementability, estimated costs of construction and safety were factors discussed for this and other alternatives. While there was no public comment on this alternative, Ecology had questions on how the vapor well extraction system would be designed and tested, and whether carbon adsorption should be evaluated for stack discharge. Responses to these comments are found in the Responsiveness Summary for this site. Community relations activities have continued since the September 1985 ROD through phone updates and agency briefings. There will be a public meeting, which will be announced in the local newspaper, and a fact sheet on the amended ROD, prior to its implementation. As the selected treatment alternative was in the Feasibility Study on this site, no new public comment period will be held.

RECOMMENDED ALTERNATIVE

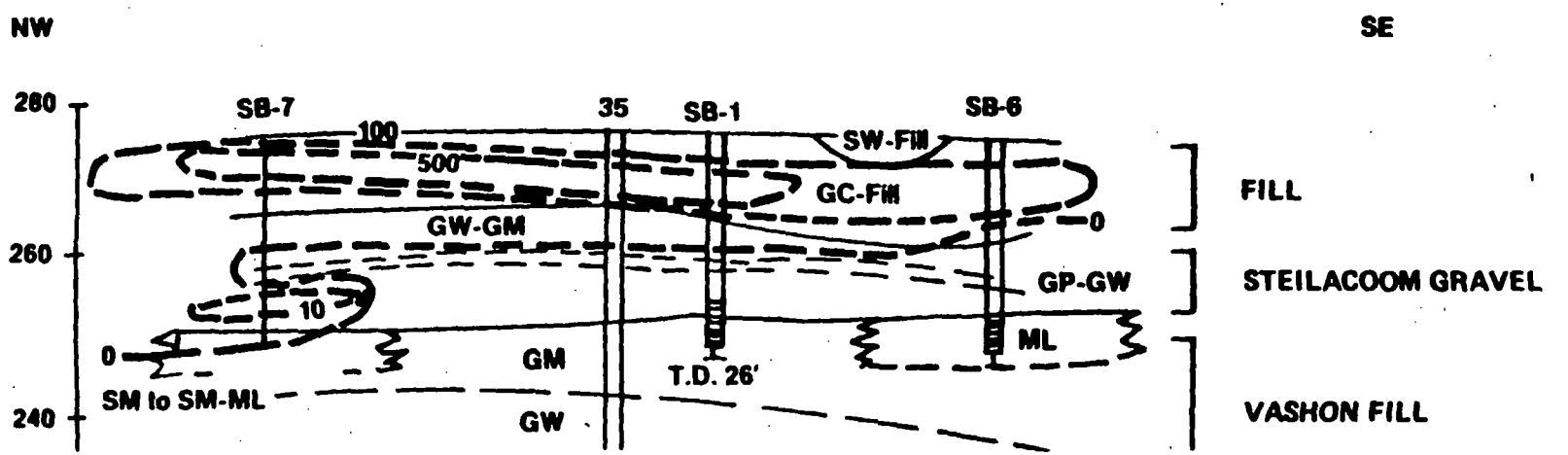
The difference between the amended ROD and the September 1985 ROD only involves remediation of the soil unit. The distribution of the perchloroethylene concentration in the soil is depicted on Figures 1 and 2. The recommended alternative is the remedy which is supported by the state of Washington. The benefits of the vapor well extraction system, including the potential cost savings, were noted in the September 1985 ROD. This alternative was not selected at that time due to its developmental status, and uncertainty of adequate performance. Successful operation of vapor well extraction systems during the past year, specifically at the Well 12A Project, have documented the feasibility of this alternative's application at this site.

The following components comprise the new elements of the proposed soil unit remedial action.



CONCENTRATION DISTRIBUTION OF PERC IN THE 0.0 TO 5.0-FT DEPTH INTERVAL

FIGURE I



Isopleths in ug/Kg

GW	GRAVEL, WELL GRADED
GMP	GRAVEL, POORLY GRADED
GM	SILTY GRAVEL
GC	CLAYEY GRAVEL
SW	SAND, WELL GRADED
ML	SILT, LOW LIQUID LIMIT

CONCENTRATION DISTRIBUTION OF PERC ALONG MAIN AXIS OF DRAINFIELD

FIGURE II

- Clean out the three existing septic tanks by removing any water and contaminated solids, backfill the tanks with clean fill. Treat removed water and solids if feasible, or dispose of at an approved off-site disposal facility.

- Constuct a vacuum extraction system consisting of extraction wells on the Plaza Cleaners property, concentrated along the utility and drain field lines. The well heads will be manifolded together and connected to the suction of a low volume, high pressure fan. The fan outlet will connect to a pipe stack, which discharges to the atmosphere well above the building eave line. Wells will have shutoff valves and sample taps for analyzing the progress of cleanup. The actual time that will be required to extract the solvents is difficult to predict. Based on ongoing vacuum extraction experience at another site with similar soil conditions, we estimate a 6-month operating term for this action. In practice, the system will be operated until it is no longer effectively reducing the contaminant load in the soil. The estimated time for design, bid approval, construction, and operation for this alternative is 45 weeks.

  By valving off individual wells, or shutting down the entire system and monitoring the concentration of perchloroethylene (PERC) in the wells, and tendency for migration of the remaining PERC and resulting increases in its content at the well location can be tracked. Operation of the system can then be modified and continued.

  The concentration of PERC in the stack discharge is expected to be at its highest value at the start of operation and decrease as pumping continues. Even if the total amount of about 5 pounds of PERC estimated to be the total contaminant load at this site, were released in a single day, there would be essentially no risk to the public and little concern about air quality. An activated carbon filter which would adsorb essentially all of the volatile organic solvents will be provided on the stack discharge, if necessary to comply with state air standards.

  Cost estimates for the vapor well extraction alternative and the carbon filter option are tabulated on the following charts.

The effectiveness of the vapor well extraction system will be evaluated during its operation, and confirmational sampling will be conducted upon completion of the extraction operation. This system will be run until it is the opinion of Ecology and EPA that it is no longer effective to do so. In any event, the vapor well extraction system will meet or exceed the level of on-site soil clean-up achieved by the soil excavation alternative selected in the September 1985 ROD. If confirmational sampling indicates a need to continue to control excavation in this area, administrative restrictions will be implemented to do so.

CONSTRUCTION COST ESTIMATE

VAPOR WELL EXTRACTION SYSTEM

ITEM	QUANTITY	UNIT	COST $	AMOUNT $
Excavate Tank Tops and Stockpile	140	CY	5	700
Sheet Piling	2.2	TN	1400	3080
Sample & Prepare Disposal Application	1	LS	3000	3000
Analyze Tank Samples	15	EA	65	975
Break Tank Tops	3	EA	340	1020
Remove, Haul, Treat Tank Contents	1	LS	8000	8000
Haul & Dispose at Landfill	11	CY	240	2640
Imported Tank Backfill	40	CY	20	800
Install Extraction Header on Tanks	50	LF	7.00	350
Backfill from Stockpile	140	CY	9.50	1330
Install Wells -(15'D)	8	EA	520	4160
Analyze Soil Samples	16	EA	65	1040
Fan	1	LS	2100	2100
Fan Base & Mounting	1	LS	250	250
Stack	1	LS	500	500
Piping & Valving	220	LF	5.50	1210
Electrical Starter and Hookup	1	LS	1000	1000
Utility Service	1	LS	500	500

ITEM	QUANTITY	UNIT	COST $	AMOUNT $
Site Fence	160	LF	9.00	1440
Off Shift Security (Drilling)	2	WKS	500	1000
Personnel Decon. Facility	1	LS	500	500
Personnel Health & Safety (Tank & Drilling)	3	WKS	250	750
SUBTOTAL				36,345
Contractors' Mobilization Bonds & Insurance-15%				5,455
SUBTOTAL				41,800
Contingency - 15%				6,270
TOTAL				48,070

COMPARISON OF SOIL UNIT ALTERNATIVES

COST ESTIMATES

	Vapor Well Extraction	Excavation & Landfill
Construction	$48,100	354,200
Design	$20,550	20,550
Construction Management	$13,250	25,550
O&M	$ 7,100	0
Project Total	$89,000	400,300

VAPOR EXTRACTON

CARBON ABSOPTION OPTION

ITEM	QUANITY	UNIT	COST $
Purchase A/C Filter	1	LS	700
Install	1	LS	430
Haul & Dispose	1	LS	100
SUBTOTAL			1230
Contractor Mobilization Bond & Insurance-15%			185
SUBTOTAL			1415
Contingency-15%			215
TOTAL			1630

CONSISTENCY WITH OTHER ENVIRONMENTAL LAWS

All facets of the proposed action will be consistent with the technical requirements of other environmental laws. In addition to the citations in the September 1985 ROD, the amended ROD will cover;

- Clean Air Act - The Puget Sound Air Pollution Control Agency (PSAPCA) controls air discharges. They will be notified of the discharges from the proposed soils alternative. If these levels do not meet their requirements, the carbon filter adsorption system will be used.
- SARA - the proposed alternative will be consistent with the requirements established under Section 121 of SARA governing clean-up standards.

OPERATION AND MAINTENANCE

This section is unchanged.

FUTURE ACTIONS

This section is unchanged.

SCHEDULE

Approve Initial Remedial Action	September 1985
Sign ROD	September 1985
Sign State Superfund Contract	April 1986
Superfund Monies Available	May 1986
Design Initiated by EPA	May 1986
Construction on First Operable Unit Initiated by EPA	September 1986
Signature on Amended ROD for Alternative Soil Unit Remediation	November 1986

Nov 1986

Amended Record of Decision
Remedial Alternative Selection

SITE

Ponders Corner, Washington

DOCUMENTS REVIEWED

I am basing my decision on the following documents describing the analysis of the cost and effectiveness of remedial alternatives for the Ponders Corner site.

- Public Comment Remedial Investigation Report and Appendices, Ponders Corner, Washington
- Public Comment Feasibility Study, Ponders Corner, Washington
- Summary of Remedial Alternatives Solution
- Responsiveness Summary
- Record of Decision (ROD) Remedial Alternative Selection, Ponders Corner, Washington - dated September 30, 1985
- Performance Evaluation Pilot Scale Installation and Operation Soil Gas Vapor Extraction System, Time Oil Company Site, Tacoma, Washington, South Tacoma Channel Well 12A Project, December 1985.
- Ponders Corner Remedial Design Evaluation of Soils Unit Alternatives (Draft)
- Washington State Department of Ecology's letter supporting a change in Soils Unit Remediation at the Ponders Corner site

DESCRIPTION OF REMEDY SELECTED IN THE SEPTEMBER 30, 1985 ROD

- Continue operation of the H1-H2 treatment system to continue cleanup of the aquifer. The aquifer cleanup level will be addressed in a later decision, based on data gathered during this operation.
- Install variable-frequency controllers on the well pump motors to reduce energy requirements and thereby reduce costs.
- Change fan drives to reduce treatment tower air flow to reduce energy requirements and thereby reduce costs.

- Install additional monitoring wells, upgrade existing wells, and continue routine sampling and analysis of the aquifer to monitor the progress of its cleanup and to provide an early warning of potential new aquifer contaminants.

- Place administrative restrictions on the installation and use of wells to minimize the potential for use of contaminated groundwater until remedial action is completed.

- Excavate and remove the septic tanks and drain field piping on the Plaza Cleaners property to reduce the risks associated with uncontrolled excavation by removing the most contaminated soil, and comply with other environmental laws.

- Place administrative restrictions on excavation into the contaminated soils to reduce the risks associated with uncontrolled excavation, until remedial action is completed.

DESCRIPTION OF CHANGE IN SELECTED REMEDY

- All of the selected remedies and administrative restrictions in the September 30, 1985, ROD for the aquifer unit have been or will be implemented.

- The soils unit alternative will utilize a vapor well extraction system covering the area of soil contamination over and around the historical drainfield on-site. This will remediate the area of highest soil contamination, reduce risks associated with uncontrolled excavation, and comply with other environmental laws.

- Soil and vapor testing will continue until soil treatment is judged as being complete.

- Contents of the septic tanks will be removed and treated if possible. This waste will be shipped off-site only if treatment is unavailable, in accordance with requirements in the Superfund Amendments and Reauthorization Act (SARA), Pub. L. No. 99-499 (1986).

DECLARATION

Consistent with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), the National Contingency Plan (40 CFR Part 300), and Section 121 of SARA, I have determined that the above Description of Selected Remedy at the Ponders Corner site is a cost-effective remedy and provides adequate protection of public health, welfare, and the environment. The state of Washington has been consulted and agrees with the selected remedy.

I have also determined that the action being taken is appropriate when balanced against the availability of Trust Fund monies for use at other sites. In addition, the selected remedies for the aquifer unit, vapor well extraction system, and removal or treatment of the septic tank contents are more cost-effective than other remedial actions, and are necessary to protect public health, welfare, or the environment. All off-site disposal shall be in compliance with the policies in Jack W. McGraw's, May 6, 1985, memorandum entitled "Procedures for Planning; Implementing Off-Site Response Actions" and SARA Section 121.

The remedial action includes the maintenance of institutional controls with which to prohibit withdrawals of groundwater from the area of the plume of contamination, and uncontrolled excavation of soil during treatment of these units.

In addition, the action may require future operation and maintenance (O&M) activities, not including the O&M for the stripping towers, to ensure the continued effectiveness of the remedy. These activities will be considered part of the approved action and eligibility for Trust Fund monies until such time that the Regional Administrator makes the decision regarding the endpoint level of treatment for soils and groundwater. At the time when the levels are set, the Regional Administrator will also decide on the future status and funding of O&M.

If additional remedial actions are determined to be necessary a ROD will be prepared for approval of the future remedial action.

CERTICATION

I hereby certify that that portion of the remedial action covered by this amended Record of Decision complies to the maximum extent practicable with Section 121 of CERCLA.

Nov 14 1986
date

Robie G. Russell
Regional Adminisrator